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Flipse, A.C.

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Abraham C. Flipse
Department of History and Social Aspects of Science, Faculty of Sciences
Vrije Universiteit Amsterdam
AC.Flipse_AT_few.vu.nl

Between Neo-Thomist Natural Philosophy and Secular Science: Roman Catholic Scientists in the Netherlands, 1900-1950

1. Introduction

During the nineteenth century the Roman Catholic community in the Netherlands, although it formed almost 40% of the population, was in a position of cultural backwardness. This standing aloof in cultural and academic life was partly due to intentional exclusion by the liberal-protestant elite, but it was also caused by the attitude of the Catholics themselves. They had a certain fear of modernization in general and of the sciences in particular. The sciences were associated with an unchristian, materialistic worldview, which formed a threat to moral values and the Christian Truth. Only around the turn of the twentieth century this attitude slowly began to change. In 1899 the Catholic writer Maarten Poelhekke (1864-1925) lectured on *The Shortfall of Catholics in Science*, referring not only to the small number of Catholic scientists but also hinting at what he saw as their shortcomings. He blamed his fellow-believers for being too passive and he called on them to 'invade' the academic world and to make up the shortfall.[1]

In the following decades, the Catholics' passive and hostile attitude towards the sciences gradually disappeared and a process of emancipation started. The 'shortfall' of Catholics in science was to disappear in the course of the twentieth century. Several questions with respect to this development can be asked: how exactly did science gain increasing acceptance in Catholic circles? What happened to the nineteenth-century religious aversion to the sciences? How was the new, positive, attitude towards the sciences justified?

In the Dutch debate about the relation between science and Catholic faith there are, of course, many echoes of discussions among Catholics in other countries.[2] At the same time, it was also a typically Dutch debate, which can only be understood within the Dutch socio-cultural context. I will therefore first make some general remarks about the organizational developments that accompanied the debate in the Netherlands. Secondly two case studies about science and religion are worked out, namely a discussion of the theory of evolution in 1916; and ideas that were advanced about the 'new physics' in the 1920s and 1930s. The philosophy of neo-Thomism played a very important role in these discussions, as we shall see.[3] Finally some answers will be formulated to the questions posed above – about the way the changes took place. Conclusions will be drawn about the role of neo-Thomism in the process of appropriation of the sciences by the Dutch Catholics.

2. The initial impetus to change

One of the earliest initiatives in the process of emancipation was the founding, around 1900, of Catholic Student Associations in the university towns of the Netherlands. A few years later, in 1904, a 'Society for the Advancement of Science among Catholics in the Netherlands' (in short: Catholic Scientific Society) was founded for Catholic graduates, and in 1923 a Catholic University started with faculties of Theology, Arts and Law (Faculties of Science and

[1] M.A.P.C. Poelhekke, *Het Te-kort der Katholieken in de Wetenschap* (1900).
[2] For an overview of Roman Catholicism and modern science: Don O'Leary, *Roman Catholicism and Modern Science. A History* (2006).
[3] On the neo-Thomist movement see e.g. Gerald Mc.Cool, *The Neo-Thomists* (1994).

Medicine were only created after the Second World War). At the same time, some professors at the Catholic seminaries also began to pay attention to the sciences. Some of the priests, especially Jesuits, even graduated in one of the sciences at the state universities and stimulated their students to go to university too.

The creation of private, Catholic organizations was in line with a general trend in early-twentieth-century Dutch society in which other groups, like the orthodox Calvinists and the socialists, also created their own networks of organizations. The Calvinists, for example, had already founded their own university in 1880. This phenomenon was later called 'pillarization': a 'vertical division' of society into various 'pillars': confessional and ideological groups, cutting through the 'horizontal' class structure of society.[4]

The official objectives of the Catholic organizations were the following. The Catholic Scientific Society aimed at 'promoting the sciences amongst the Dutch Catholics', which shows that the motive of emancipation was dominant here. This meant that over the years many more or less specialist scientific lectures were delivered during the meetings of the Society. However, efforts were also made to find specifically Catholic answers to the questions of the age. The aim of the University was more comprehensive and its statutes stated that 'the R.C. university recognizes, for all its scientific work, as the highest authority God's revealed truth, of which the R.C. Church is acknowledged to be the bearer.' Many Catholics who had studied at one of the State universities and who were members of the Catholic Scientific Society were initially rather critical about the foundation of a private university, because they were afraid it would lead to isolationism. However, in 1923 some of these critical members of the Catholic Society decided to devote themselves to the Catholic University when they were appointed professors.[5]

The question arose: is the only aim of these (and other) Catholic organizations to stimulate participation in mainstream science, or should we, as Catholics, develop our own 'Catholic science' – and what should it look like? Although most Catholic intellectuals admitted that *to a certain extent* science was independent of faith, they also agreed that faith should play an evaluative role in science, for example in interpreting the results, developing theories, formulating or judging hypotheses, etc. The bridge between faith and science was, they agreed, the philosophy of neo-Thomism. As early as 1879, in the encyclical *Aeterni Patris*, Pope Leo XIII had recommended the study of St. Thomas Aquinas so as to achieve a new synthesis between science and faith. In the Netherlands the Thomistic revival was picked up relatively late compared to Catholics elsewhere, but Thomistic philosophy was to become very popular. It played an important role in almost all discussions about issues related to science and faith, as I will illustrate now by means of two case studies.

3. Discussions on evolution, ca. 1916

In 1916 a book was published about *The evolutionary history of organic life, from the perspective of philosophy, science and theology*. It was a co-production of the Catholic professor of neo-Thomist philosophy J.Th. Beysens (1864-1945), the scientist, A.C.J. van Goor (1881-1925), who had a doctorate in biology at the University of Amsterdam, and the

[4] On the Calvinist 'pillar', the attitude of the Dutch Calvinists towards the sciences and more references to the phenomenon of pillarization, see Abraham C. Flipse, 'Against the Science Religion Conflict: the Genesis of a Calvinist Science Faculty in the Netherlands in the Early Twentieth Century', *Annals of Science* 2008 (3), 363-391.

[5] On the Catholic Scientific Society: Hans Bornewasser, *In de geest van Thijm. Ontwikkelingen in de verhouding tussen wetenschap en geloof. 1904-1984* (1985). The literature on the Dutch Roman Catholic University includes: Jan Brabers, *Proeven van eigen cultuur. Vijfenzeventig jaar Katholieke Universiteit Nijmegen. 1923-1998. Deel 1: 1923-1960* (1998) and: Hub. Laeven and Lodewijk Winkeler, *Radboudstichting 1905-2005* (2005).

theologian G. van Noort (1861-1946).[6] It was one of the first thorough discussions of evolutionary theory in Catholic circles in the Netherlands after the – superficial – nineteenth-century rejection of the theory. In the book it was first argued that neo-Thomist philosophy and Church doctrine were not hostile to the idea of evolution in the natural world as such – as long as one held on to a teleological evolutionary mechanism, a hylemorphic concept of matter and to the belief that God had created the 'potentiality for life' in the beginning. The immaterial, immortal human soul was excluded *a priori* from the process of evolution: it was created immediately by God. Subsequently the authors discussed the 'facts' of geology, palaeontogy, embryology, morphology and genetics. It had been shown, they explained, that in succeeding geological ages more and more groups of increasingly complex plants and animals had emerged and a number of theories had been proposed to explain these facts. The authors concluded that 'monophyletic evolution' and not, for example, an ongoing creation of new species by God was the most probable explanation of the phenomena. Moreover, the 'ongoing creation hypothesis' would be at odds with the rule of St. Thomas, they argued, 'not to assume miracles or supernatural interference when a natural explanation is available.' The biologist Van Goor was strongly influenced by the ideas of the Catholic geologist Henry de Dorlodot from Louvain, Belgium, with whom he had corresponded in 1913 about evolution. De Dorlodot had assured him that it had always been a creed of the Church to believe in God as the *Causa Prima*, who worked *indirectly* in the created world by means of *causae secundae*.[7]

Despite the strong Thomistic foundation that the authors had given to their ideas, the Church Censorship, influenced by anti-modernist advisors, withheld the 'imprimatur' for the book, and therefore it could not be published for the general public.[8] Nevertheless a slightly adapted version of the book was published in 1918 and discussed in the relative seclusion of the Catholic Scientific Society. Here the reactions varied from qualified approval to indignant rejection. The majority of the members, however, were prepared to accept a Thomistic evolutionary theory for the plant and animal world.[9] Only after the Second World War, in the late 1940s and 1950s, these theistic evolutionary ideas reached the general Catholic public.

4. Neo-Thomism and the 'new physics', 1920s-1930s

While in the debate about evolution neo-Thomist philosophy was mainly used to 'rationalize' the (partial) acceptance of the theory of evolution, in the debate about physics, neo-Thomist ideas played a more direct role.

The early twentieth century was a period of revolution in physics. Physicists were puzzled by a variety of new phenomena such as radioactivity, the strange character of light and particles, indeterminism in atomic physics, etc. The developments in physics also shed new light on the epistemological question of the nature of scientific knowledge. Neo-Thomist natural philosophers presented their philosophy as a way out of the many problems that had arisen in classical physics. Especially the Jesuit Petrus Hoenen (1880-1961), who had a doctorate in physics of Leiden University and was later appointed professor of natural philosophy at the Gregorian University in Rome, was a champion of neo-Thomist reasoning.

[6] J.Th. Beysens, A.C.J. van Goor, G. van Noort, *De ontwikkelingsgeschiedenis van het organische leven. Wijsgerig, natuurwetenschappelijk en theologisch beschouwd* (1916).

[7] De Dorlodot to Van Goor, 2 january 1914, Van Goor Archive, Katholiek Documentatiecentrum Nijmegen. For a thorough discussion of De Dorlodot's ideas on theistic evolution in relation to the official Vatican policy, see Raf de Bont, 'Rome and Theistic Evolutionism: The Hidden Strategies behind the "Dorlodot Affair", 1920-1926', *Annals of Science* 2005 (4), 457-478.

[8] L.J. Rogier, *Katholieke Herleving. Geschiedenis van Katholiek Nederland sinds 1853* (1956), 494.

[9] A.C.J. van Goor, J. Hoogveld, G. van Noort, *De afstammingsleer en de tegenwoordige stand der natuurwetenschap. Wijsgerige gegevens. Theologische Inleiding. Praeadvies* (1918); *Annalen* (1918), 123-160.

In 1927 he published an article about 'The Big Crisis in the Physical Sciences'.[10] He attributed the 'crisis' in physics to the narrow view of classical science, which was only built on deterministic-mechanistic principles. In his view, the recent problems in atomic physics proved the bankruptcy of classical physics. Therefore a 'new physics' was needed and, according to Hoenen, this new physics would be a return to the old: 'it will be Aristotelean-Thomistic or it will not be', he exclaimed. In several books that he published in the 1920s and 1930s he indicated the direction for such a new physics. It should re-introduce Aristotelian concepts such as 'potential-being', 'actuality' and 'totality'. The quantum-mechanical wave description of atoms and molecules, for example, could be linked with the Aristotelian concepts of 'totality' and final cause. To put it briefly: according to Hoenen recent developments in physics vindicated the Aristotelian-Thomistic view of nature. The books of Hoenen and other neo-Thomist philosophers were very popular in circles of Catholic students and scientists in the interwar period. They were widely discussed in the student associations and the Catholic Scientific Society.[11]

It should be noticed that the Dutch Catholics followed a general trend among Catholic scholars all over the world. All these scholars tried to adjust the old Thomistic philosophy so as to reconcile modern science and Christian belief. However, there was a diversity of opinion about the question of how the relation between science and natural philosophy should be worked out. It appears that the Dutch Catholics were very consistent in keeping science and (natural) philosophy together, even in a period when this kind of Thomistic reasoning was already waning in the international Catholic world. In 1936 one of the Dutch neo-Thomists noticed that natural philosophy had become the 'problem child' of scholastic philosophy.[12] French and German scholars had even abandoned the attempts to reconcile Thomistic natural philosophy and science. They had made a retreat from natural philosophy and had left science to the scientists.[13] When the famous French philosopher Jacques Maritain visited Amsterdam in 1926, he was severely criticized by Petrus Hoenen for his anti-realistic view of science. In the view of the Dutch neo-Thomist scholars, natural philosophy and natural science studied the same natural world and both presented a realistic picture of nature. Therefore scientists and philosophers had to work together to integrate scientific and philosophical knowledge, although there was a division of labour.[14]

Despite the grand ideals of the Interwar period, after the Second World War Thomism was finally to decline in the Netherlands as well. It was increasingly seen as redundant for the practice of science and a more pragmatic attitude towards the sciences prevailed. In the 1960s, a new generation of Catholic scientists even looked back pityingly on the 'tragic-looking persistent attempts to fit science into the Thomistic framework'.[15]

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[10] P. Hoenen S.J., 'De groote crisis der physische wetenschappen', *Studiën: tijdschrift voor godsdienst, wetenschap en letteren* (1928), 173-190.

[11] Hoenen's *magnum opus* was *Philosophie der Anorganische Natuur* (1938, new editions in 1940 and 1947). A thesis similar to Hoenen's was defended for the case of biology by several Catholic philosophers and biologists, e.g. the Leiden professor in anatomy J.A.J. Barge in his annual presidential addresses to the Catholic Scientific Society in the period 1924-1933.

[12] E.J.E. Huffer S.J. (1936), 'De Thomistische Natuurfilosofie verouderd?', *Studiën: godsdienst, wetenschap, letteren* (1936), 479-492, (1937), 61-72.

[13] Compare: William A. Wallace, 'Thomism and Modern Science: Relationship Past, Present and Future', *The Thomist* (1968), 67-83, p. 77, who calls this approach 'thomist cosmology without a cosmos'. It implied that all references to modern science were deleted from the philosophy manuals.

[14] P. Hoenen, 'Maritain's rede in Amsterdam. Thomistische philosophie en mathematische natuurwetenschap', *Studiën: godsdienst, wetenschap, letteren* (1927), 332-353.

[15] B.F. Saris, 'Aantekeningen betreffende de dialoog tussen natuurwetenschappen en theologie', *Annalen* (1963), 1-16.

5. Concluding remarks: the attractiveness of neo-Thomism

Now that we have seen with the help of a few examples how the Dutch Catholics slowly embraced the sciences in the first half of the twentieth century, we return to our question concerning the function of neo-Thomism in this process. Why was neo-Thomism so attractive to Dutch Catholic scientists in this period? I want to suggest four interrelated factors.

First of all this appeal can be attributed to the general intellectual character of Thomistic philosophy, which accepts an independent role for reason alongside faith. This starting point made it possible for Catholic students of nature to participate in mainstream science without being hampered by faith. Consequently neo-Thomism stimulated the intellectual emancipation of the Catholics in the Netherlands by revaluating reason.[16]

Secondly, neo-Thomism offered a possibility to create a specific Catholic synthesis of science and religion under the banner of 'Catholic Science'. This was important for the Dutch Catholics, because in the nineteenth century science had been seen as the exclusive 'property' of the liberal-protestants. With the help of Neo-Thomist reasoning Catholics could dissociate science from its liberal context and more easily appropriate the sciences. In this period the Dutch Calvinists also tried to achieve their own 'Calvinist science', alongside 'liberal science'. In Dutch society the various communities of Calvinists, socialists and Catholics increasingly lived in their own subcultures. In this situation, the Catholics were eager to create their own 'group identity', even in the field of science. Neo-Thomism strengthened their self-confidence as a group. This partly explains the popularity of the extreme version of neo-Thomistic natural philosophy that was advocated by Hoenen and his followers.[17]

Thirdly, it should be noted that Catholic scientists were not the only scientists in this period who were looking for alternative theories in physics and biology. The mechanistic, deterministic science of the nineteenth century was often considered 'bankrupt' by the general public. Therefore, many scientists tried to get rid of the materialistic image of the sciences and argued that the sciences should widen their outlook so as to embrace the immaterial and the teleological side of reality. Meanwhile the content of science changed as well: deterministic and mechanistic theories were dismissed, and indeterministic and holistic theories were developed. On these and similar grounds many held the view that a 'new' science could be developed and that a reconciliation of science and religion was possible. Catholic scholars joined this movement with their own ideas about the reconciliation of non-materialistic science and religion.[18]

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[16] Scholars judge the role of neo-Thomist philosophy in the Catholic's turn towards science and intellectual emancipation very differently. Compare e.g.: A.G.M. van Melsen, 'Het neo-thomisme, herleving van een schijndode of schijnherleving van een dode', *De identiteit van katholieke wetenschapsmensen* (1980), 93-113; Lodewijk Winkeler, 'Neothomisme en emancipatie', *De praktische Thomas. Thomas van Aquino: de consequenties van zijn theologie voor de hedendaagse praktijk* (1989), 102-112; R. Scott Applebey, 'Exposing Darwin's "hidden agenda": Roman Catholic Responses to evolution, 1875-1925', *Disseminating Darwinism: The Role of Place, Race, Religion and Gender*, ed. Ronald L. Numbers and John Stenhouse (1999), 173-207; Don O'Leary, *Roman Catholicism and Modern Science. A History* (2008), 200.

[17] 'Pillarization' of society was not an entirely unique phenomenon for the Netherlands; comparable division of society, including strong Catholic subcultures, had emerged in other countries. What made the Netherlands different, however, was that the Roman Catholics followed the example of the orthodox Calvinists, who had build up a very strong and influential pillar since the 1880s. Roman Catholics in the Netherlands were not only challenged by modernity, but also by an orthodox Calvinist revival. Its seems that, as a result, Dutch pillarization became more rigid than elsewhere. Cf. Paul Luykx, *Andere katholieken. Opstellen over Nederlandse katholieken in de twintigste eeuw* (2000), 67-70.

[18] On 'indeterministic' and 'holistic' ideas in the early twentieth century (in relation to science-religion discussions), see for Britain: Peter J. Bowler, *Reconciling Science and Religion. The Debate in Early-twentieth-century Britain* (2001), 87-121, 160-178; and for the Netherlands: David Baneke, *Synthetisch denken.*

Finally, neo-Thomism was not experienced by the Catholics as a burden. On the contrary, they saw it as a way out of the chaotic situation in western culture in the Interwar period. The cultural crisis after the First World War was often linked with the crisis in the sciences; and the solution for both crises, they hoped, was a revival of Catholicism. This implied that Catholics had a message for the world: neo-Thomism was a positive, intellectual philosophy for a world that was imbued with pessimism and irrationality.[19]

All these factors contributed to the popularity of neo-Thomist natural philosophy, especially during the interbellum. However, neo-Thomist natural philosophy lost its appeal when after the Second World War Dutch society began to change, the desire for a new, non-materialistic science waned, and the Catholic 'shortfall' in science was made up.

Natuurwetenschappers over hun rol in een moderne maatschappij, 1900-1940 (2008), 136-137, 143-162, 169-176.

[19] Compare the ideas of US Catholics in this period: William M. Halsey, *The Survival of America Innocence: Catholicism in the Era of Disillusionment, 1920-1940* (1980), 138-151.